

HD28 ,M414 no.1450-83 c.2



WORKING PAPER ALFRED P. SLOAN SCHOOL OF MANAGEMENT

THE PREDICTIVE ACCURACY OF BEHAVIORAL EXPECTATIONS: TWO EMPIRICAL STUDIES

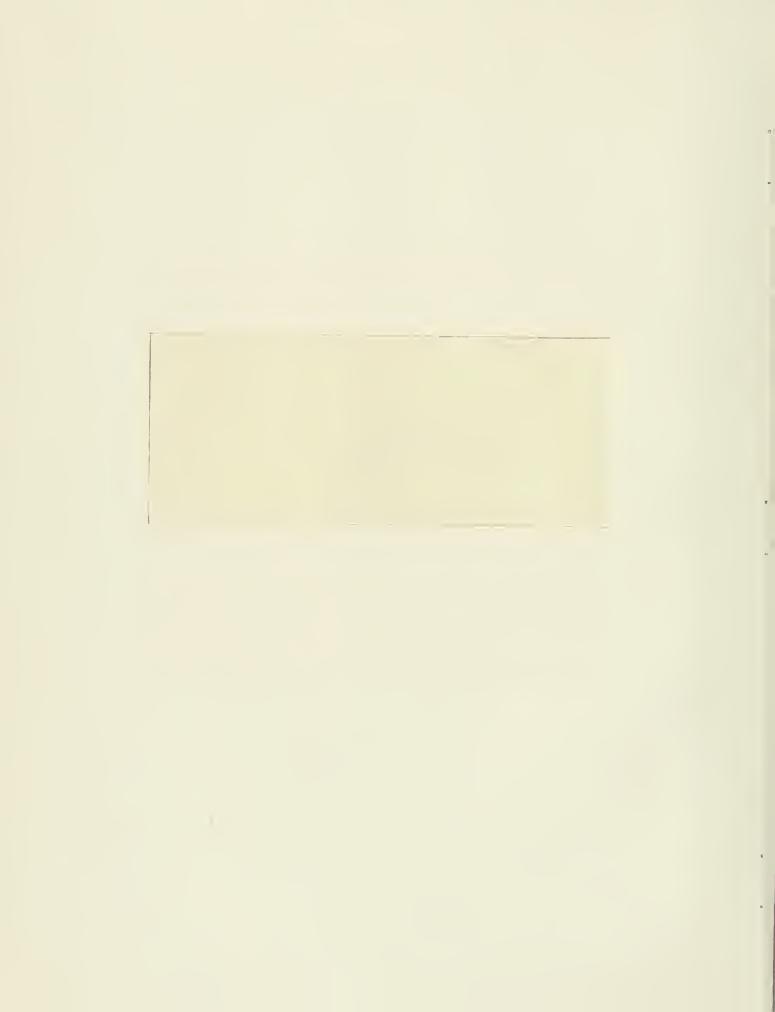
by

Paul R. Warshaw McGill University and

Fred D. Davis
Sloan School of Management
MIT

Working Paper # 1450-83

MASSACHUSETTS
INSTITUTE OF TECHNOLOGY
50 MEMORIAL DRIVE
CAMBRIDGE, MASSACHUSETTS 02139



THE PREDICTIVE ACCURACY OF BEHAVIORAL EXPECTATIONS: TWO EMPIRICAL STUDIES

by

McGill University

Paul R. Warshaw and Fred D. Davis
McGill University Sloan School of Management MIT

Working Paper # 1450-83



General Self-understanding Moderates the Accuracy of Self-reported Behavioral Expectations

Paul R. Warshaw
McGill University

and

Fred D. Davis
Massachusetts Institute of Technology

Running Head: Self-understanding



Abstract

While Nisbett and Wilson (1977) and other researchers (e.g., Ericsson & Simon, 1980) argue about the accuracy of self-reported data, the distinction between the ability and the willingness to accurately self-report has been somewhat overlooked. Namely, issues of self-understanding must be differentiated from those of self-presentation. Further, self-understanding that relates specific behavioral domains must be differentiated from general self-understanding. The present manuscript argues that self-understanding is a potentially important individual difference variable which has been neglected in the literature. The relationship between general self-understanding and the accuracy of self-reported behavioral expectations is discussed and provocative preliminary findings are reported which suggest that further research on the topic is warranted.



Prediction of individual behavior has long been important in social psychological theorizing and research (for example, see Ajzen & Fishbein, 1980). Related applied domains like the consumer (e.g., Ryan & Bonfield, 1975), organizational (e.g., Hom, Katerberg & Hulin, 1979) and political (e.g., Fishbein, Ajzen & Hinkle, 1980) fields are also concerned with behavioral predictions because their accuracy has significant implications for the success of planning and policy-making activities.

Generally, individual-level behavioral forecasts have been based upon intention measures reported by those whose behavior we wish to predict (e.g., Ajzen & Fishbein, 1980). Recently, however, it has been argued, first by Warshaw, Sheppard and Hartwick (in press) subsequently by Ajzen (Note 1), that the more pertinent construct for prediction purposes is behavioral expectation (BE). expectation (or self-prediction) is an individual's self-reported subjective probability of his/her performing a specified behavior, based on his/her cognitive appraisal of volitional and non-volitional behavioral determinants: beliefs, attitudes, social norms, intentions, habits, abilities and situational factors, as well as anticipated changes in these determinants (Warshaw, Sheppard & Hartwick, in press). Warshaw, Sheppard and Hartwick (in press) have delineated conditions under which an individual's behavioral expectation is likely to be superior to intention as a behavioral predictor, although these two concepts have often been confounded in the literature (Sheppard, Warshaw & Hartwick, Note 2). The present research is more concerned with factors that moderate the predictive accuracy of behavioral

expectations per se. In particular, the results of a preliminary investigation of the influence of an individual's level of general self-understanding on the predictive accuracy of his/her behavioral expectation is reported.

Accuracy of Self-reports

In general, there has been much controversy and confusion in the literature regarding the validity of self-reported data. Nisbett and Wilson (1977) argue that individuals are unable to observe accurately report on their mental processes, although they may be conscious of the products of such processes. Nisbett and Wilson have been refuted on the grounds that their distinction between process and product is tautological (Smith & Miller, 1978; White, 1980). Nevertheless, other research suggests that an individual's ability to accurately self-report is a function of the type of phenomenon they are being asked to report on. For example, self-reported beliefs about one's memory performance tend not to be accurate (Herrman, 1982) and process-oriented, think-aloud verbal protocols of thought processes are accurate only under certain circumstances (Ericsson & Simon, 1980). However, self-prediction of intellectual achievement, vocational choice, job performance and the like are at least as accurate as other assessment methods with which they have been compared (Schrauger & Osberg, 1981). Hence, research is needed to develop a taxonomy that organizes various self-related phenomena with respect to individuals' ability to accurately self-report on them. Research should be shifted

to the issue of when, not whether, self-reported data are accurate.

Research on the attitude-behavior relationship has taken major steps toward addressing the issue of when (as opposed to whether) behavior can be accurately predicted from attitudes. Attitude-type self-reports are especially pertinent to our understanding of behavioral expectation since attitude toward performing behavior is often a major determinant of behavioral expectation (Warshaw, Sheppard & Hartwick, in press). In fact, prior to Fishbein and Ajzen's (e.g., 1975) work on behavioral intention, researchers viewed attitude as the best self-predictor of future behavior. The predictive capability of the attitude concept was brought into question by Wicker's (1969) extensive review of attitude-behavior research, which found the relationship between verbal expression of attitude and subsequent overt behavior to be weak as generally reported in the literature. This work was representative of an era of disenchantment with the attitude concept as a predictor of behavior (e.g., Deutscher, 1966; 1969).

Reversing this trend, recent work has generated optimism toward the utility of the attitude concept (e.g., Kelman, 1974). Attitudes toward an attitude object have been shown to be better predictors of multiple-act behavioral criteria with respect to the object than of any particular act, while more specific attitudes toward the act tend to be better predictors of single act behavioral criteria than are attitudes toward the object (Fishbein & Ajzen, 1974; Fishbein & Ajzen 1975). Based upon an extensive review of 109 attitude-behavior studies, Ajzen

and Fishbein (1977) argue that attitude predicts behavior much better when the measures of attitude and behavior correspond in specificity with respect to target, action, context and time. Including a term reflecting the social influence of significant referents has been shown to increase predictive power as well (Ajzen & Fishbein, 1973). The predictive accuracy of attitudes declines when elapsed time between measurement of attitude and behavior increases (Davidson & Jaccard, 1978; Kelley & Mirer, 1974; Schwartz, 1978), and when situational factors impede the behavior (Davidson & Jaccard, 1978; Romer, 1981; Warner & DeFleur, 1969). Thus, attitude is a useful predictor of behavior under appropriate circumstances.

Self-presentation Versus Self-understanding

Research on conditions affecting the accuracy of self-reported data has increasingly focused on the role of individual differences. For our purposes, we distinguish two broad categories of individual difference variables: those related to self-presentation and those related to self-understanding. Self-presentation phenomena relate to the subject's willingness to accurately self-report, whereas self-understanding phenomena relate to the subject's ability to accurately self-report. Although blurred in the literature, we consider the distinction between self-presentation and self-understanding phenomena to be crucial from the standpoint of research design, insofar as the error related to each arises from very different causes. To clarify the distinction, we will first discuss

self-presentation phenomena, which have been well established in the literature. Distinguishing between domain-specific and general self-understanding, we will then argue that domain-specific self-understanding is somewhat established in the literature, whereas general self-understanding is a relatively neglected concept.

Self-presentation

Self-presentation phenomena have been dealt with extensively (e.g., Goffman, 1959; Schlenker, 1980). Building on the work of Edwards (1957), Crowne and Marlowe (1964) developed an individual difference scale of social desireability response bias. More recently, (1979) developed a scale of self-monitoring. Snyder self-monitoring individuals are more concerned about behaving appropriately in a given social situation than low self-monitoring individuals, and tend to control and quide their behavior based upon situational contingencies. Low self-monitors tend to guide their behavior based more on their internal states. As would be expected, research shows that the attitude-behavior relation is attenuated for those high in self-monitoring (Ajzen, Timko & White, 1982; Snyder & Swann, 1976; Snyder & Tanke, 1976; Zanna, Olson & Fazio, 1980). A related concept, public self-consciousness (Fenigstein, Scheier & Buss, 1975) has been found to be associated with giving more invalid self-reports (Turner & Peterson, 1977). Romer (1981) employs a causal modeling framework to separate the true and self-presentational components of attitude. Thus, multiple research traditions provide

evidence that individuals high in concern for self-presentation tend to be less willing to accurately report their attitudes.

Self-understanding

Domain-specific Self-understanding

In contrast to self-presentation, self-understanding relates to the ability (as opposed to the willingness) to accurately self-report. We draw the distinction between domain-specific and general self-understanding. Domain-specific self-understanding refers to internal knowledge of behavioral determinants relative to a specific behavioral domain. Markus' (1977) self-schemata theory investigates the nature of domain-specific self-understanding, where self-schemata are "cognitive generalizations about the self, derived from past experience, that organize and guide the processing of self-related information contained in the individual's social experiences" (p. 64). Markus (1977) provides evidence that possession of self-schemata provides a basis for an individual's "confident self-prediction of behavior on schema-related dimensions" (p. 63).

Two concepts from attitude theory, the latitude of rejection (Sherif & Hovland, 1961) and affective-cognitive consistency (Rosenberg & Hovland, 1960), have recently been used to explore issues that we construe to be related to domain-specific self-understanding. Fazio and Zanna (1977) use the latitude of rejection notion to show that attitude-behavior consistency is significantly moderated by the amount

of direct experience, degree of certainty with which the attitude is held, and how well-defined the attitude is, all relative to a specific behavioral domain. Norman (1975) and Chaiken and Baldwin (1981) use affective-cognitive consistency to measure well- versus poorly-defined attitudes (within a specific behavioral domain) and achieve results which are consistent with that operationalization. Chaiken and Baldwin (1981) further suggest that affective-cognitive consistency may serve as a useful measure of schematicity in the context of Markus' self-schemata theory.

General Self-understanding

From these various research traditions, the concept of domain-specific self-understanding emerges as a moderator of self-report accuracy. Given the importance of domain-specific self-understanding, the question naturally arises: would individual differences in general self-understanding moderate the accuracy of self-reported behavioral expectations? In contrast to domain-specific self-understanding, general self-understanding refers to one's internal knowledge of his/her behavioral determinants in general, not relative to any specific behavioral domain.

The general self-understanding concept should be differentiated from related concepts in the literature. Wicklund's (1975) self-awareness theory posits that attention at any given moment is

directed either toward the self or toward external events. The former state is also refered to as the state of self-focused attention, and can be aroused, for example by having an individual view himself/herself in a mirror or listen to a recording of his/her own voice. The accuracy of self-reports of judgements of past and future events (Pryor, Gibbons, Wicklund, Fazio & Hood, 1977) and present feelings (Gibbons, Carver, Scheier & Hormuth, 1979) is increased under conditions of heightened self-focused attention.

Fenigstein, Scheier and Buss (1975) developed a scale of public and private self-consciousness that assesses individual differences in the proportion of time spent in the state of self-focused attention. As indicated previously, Turner and Peterson (1977) found public self-consciousness (an example of self-presentation phenomena) to be related to the accuracy of self-reports. In addition, high private self-consciousness has been associated with predictively accurate self-reports (Scheier, Buss & Buss, 1978; Turner, 1978). Private self-consciousness may be an important mechanism by which general self-understanding is developed.

Self-perception (Bem, 1972) is a theory of attitude formation and change which says that individuals infer their attitudes and other internal states from observation of their own overt behavior and the contexts in which the behavior occurs when "internal cues are weak, ambiguous or uninterpretable" (p. 2). Self-perception may play a significant role in the process by which individuals gain self-understanding. For a long time, self-perception was viewed as a

theory that competed with Festinger's (1957) cognitive dissonance theory for explaining attitude change phenomena. Fazio, Zanna and Cooper (1977) attempted to resolve this controversy by arguing that dissonance and self-perception are actually complementary theories, and by delineating their appropriate domains of application. While self-awareness, self-consciousness and self-perception are distinct from self-understanding, they are clearly related. Future research on self-understanding should take these bodies of theory and research into account.

Although general self-understanding has been overlooked in the literature, the construct has implications for self-report accuracy; for example, with respect to the predictive accuracy of behavioral expectation (BE) measures. Under domain-specific self-understanding, self-understanding with respect to behavior in one domain is largely independent of self-understanding with respect to behavior in a different domain (Markus, 1977). If people differ in general as well as domain-specific self-understanding, then people should exhibit systematic differences in the predictive accuracy of their behavioral expectations across a variety of behavioral domains. A priori, we individuals would expect that who are high in self-understanding would evidence the highest mean BE/behavior correlation across a sample of behaviors, while those low in general self-understanding should evidence the lowest mean BE/behavior score. The value for individuals who are medium in general self-understanding should lie between these extremes. Namely, we expect that overall ability to accurately predict one's pattern of behaviors is positively related to the individual's general self-understanding level.

The study reported below is a preliminary examination of these hypothesized relationships between general self-understanding and the accuracy of BE forecasts for eleven behaviors. The study was designed so as to maximally dissociate the measurement of self-understanding from the self-reported behavioral expectation measurement, as an effort to rule out the possibility that subjects responded to the self-understanding measure with the relevant behavioral domains in mind. Although any true assessment of general self understanding would require that a multi-item, validated scale be developed and applied, the present study uses only a crude self-report measure, reflecting our primary purpose here, which is not to substantively research the topic but rather to point out that the field has overlooked a potentially important individual difference variable and to show some provocative pilot results which suggest the value of researching general self-understanding.

Method

Subjects

Subjects were 107 undergraduate student volunteers from a large east coast university. The sample contained 57 males and 50 females. Prospects were recruited from four small coed dormatories by research aides who knocked randomly on doors of students' private rooms. Nearly all undergraduates who were approached agreed to participate.

Procedure

Each subject was interviewed in his or her private dormatory room on three separate occasions, completing a separate questionnaire at each sitting. Several procedures were employed to minimize the that subjects would connect the self-understanding instrument (first interview) with the subsequent self-prediction behavioral elicitations (second and third interviews). First, separate groups of interviewers were used for each part of the study. Those who administered the personality questions told subjects that they were pre-testing some attitude questions for a university research team. Included therein was the following simple general self-understanding measure: "I know myself well 0 1 2 3 4 5 6 7 8 9 10 don't understand myself at all." Research aides who administered the second and third instruments claimed to be students collecting data for their marketing class project. To further dissociate the two parts of this study, one month expired between the first and second interviews. The second interview questionnaire had subjects indicate on 9-point probable/improbable scales their behavioral expectations of performing each of eleven separate behaviors during the upcoming five days (e.g., drinking alcohol, skipping class). These particular behaviors were acts most frequently mentioned during prior focus discussions among 25 non-sample member students regarding non-sex typed behaviors that students commonly perform. During the third interview, one week after the second, subjects checked off whether they had performed each behavior during the designated time period more than all (a 'don't remember' category was also once, once, or at not

provided).

In addition to separating the general self-understanding questionning from the behaviorally-oriented questionning, honest responses were further encouraged by procedures which created the illusion that subjects were providing anonymous responses. At each interview, the subject was told not to write his/her name or other identifying symbol on their questionnaire. When completed, the personality instrument was placed by the subject in a sealed envelope, while the expectation/behavior questionnaires were each collected via a ballot box procedure. However, on each occasion, immediately upon leaving the subject's private room, the interviewer surreptitiously inscribed the subject's room number on his/her just-completed questionnaire. Hence, each subject's three questionnaires could be matched later for data analysis purposes. During post-experimental debriefing, only a few subjects postulated some connection between the personality and self-prediction tasks; they were dropped from the study. No subject reported an awareness that their identity was being matched to their questionnaires. Hence, we felt reasonably assured that untainted data were gathered.

Results and Discussion

Twenty-four subjects were excluded from the data analysis. Three were deleted because they perceived that the first and second parts of the study were connected. The remaining 21 were excluded because they were not home for either the second or third of the three interviews.

Since the not-at-homes contained members of each self-understanding group in rough proportion to its representation in the sample at large (i.e., eight high, eight medium and five low), the results were not denigrated by their absence. In total, 83 subjects provided analyzable data.

Based upon their responses to the general self-understanding question, subjects were divided into high (n=30), medium (n=31) and low (n=22) groupings. For each group, Spearman rank order correlations between behavioral expectation (BE) and behavior measures were calculated for each of the eleven test behaviors. Results are summarized in Table 1.

Insert Table 1 about here

The findings supported the hypothesis that general self-understanding affects one's ability to self-predict and that those who are low in general self-understanding are the worst self-predictors. Namely, the mean \underline{r} s across all eleven behaviors were .34 (low), .60 (medium) and .53 (high). An analysis of variance on Fisher \underline{z} transformations of the \underline{r} s showed a significant main effect for general self-understanding [\underline{F} (2)=6.16, \underline{p} < .01]. Further, as

hypothesized a priori, both the low versus high (t(20) = 2.58, p < .02)and low versus medium (t(20) = 3.88, p < .001) differences significant. Hence, the low group was less able, across all eleven behaviors, to predict their performance than were both the medium and high general self-understanding subjects. However, contrary to our a priori expectations, the medium group evidenced a higher mean r (n.s.) than did the high group. Perhaps this unexpected result stems from inadequacies in our rough general self-understanding measure. validated, multi-item scale would certainly give a more reliable estimate of general self-understanding and perhaps reverse the medium versus high result found here. Since nobody has complete self-understanding, those who rate themselves extremely high on the direct self-report scale are perhaps overstating their case, especially compared with those individuals who, more realistically, give slightly lower values. Related problems with asking someone self-understanding are: 1) people who have little self-understanding may be precisely those individuals who are unlikely to believe this is true of themselves (one more misunderstanding on their part); and 2) self-presentation phenomena may introduce bias.

While not conclusive, these results strongly suggest that future research on general self-understanding is warranted.

Reference Notes

- 1. Ajzen, I. From intentions to action: A theory of planned behavior. Chapter to appear in J. Kuhl & J. Beckmann (Eds.), <u>Action-control: From cognition to behavior</u>. New York: Springer, in preparation.
- Sheppard, B. H., Warshaw, P. R. & Hartwick, J. On the need for a more general theory of reasoned action. Manuscript submitted for publication, 1983.

References

- Ajzen, I. & Fishbein, M. Attitude-behavior relations: A theoretical analysis and review of empirical research.

 Psychological Bulletin, 1977, 84, 888-918.
- Ajzen, I. & Fishbein, M. Attitudes and normative variables as predictors of specific behaviors. <u>Journal of Personality and Social Psychology</u>, 1973, 27, 41-57.
- Ajzen, I. & Fishbein, M. <u>Understanding attitudes and predicting</u>
 social behavior. Englewood Cliffs, N. J.: Prentice Hall,
 1980.
- Ajzen, I., Timko, C. & White, J. Self-monitoring and the attitude-behavior relation. <u>Journal of Personality and Social Psychology</u>, 1982, 42, 426-435.
- Bem, D. J. Self-perception theory. In L. Berkowitz (Ed.),

 Advances in experimental social psychology (Vol. 6). New

 York: Academic Press, 1972.
- Chaiken, S. & Baldwin, M. W. Affective-cognitive consistency and the effect of salient behavioral information on the self-perception of attitudes. <u>Journal of Personality and Social Psychology</u>, 1981, 41, 1-12.

- Crowne, D. P. & Marlowe, D. <u>The Approval Motive: Studies in</u>

 <u>Evaluative Dependence</u>. New York: Wiley, 1964.
- Davidson, A. R. & Jaccard, J. J. Variables that moderate the attitude-behavior relation: Results of a longitudinal survey. <u>Journal of Personality and Social Psychology</u>, 1979, 37, 1364-1376.
- Deutscher, I. Words and deeds. <u>Social Problems</u>, 1966, <u>13</u>, 235-254.
- Edwards, A. L. The social desireability variable in personality assessment and research. New York: Dryden, 1957.
- Ehrlich, H. Attitudes, behavior and the intervening variables.

 American Sociologist, 1969, 4, 35-41.
- Ericsson, K. A. & Simon, H. A. Verbal reports as data.

 Psychological Review, 1980, 87, 215-251.
- Fazio, R. H. & Zanna, M. P. Attitudinal qualities relating to the strength of the attitude-behavior relationship.

 Journal of Experimental Social Psychology, 1978, 14, 398-408.

- Fazio, R. H., Zanna, M. P. & Cooper, J. Dissonance and self-perception: An integrative view of each theory's proper domain of application. <u>Journal of Experimental</u> Social Psychology, 1977, 13, 464-479.
- Fenigstein, A., Scheier, M. F. & Buss, A. H. Public and private self-consciousness: Assessment and theory.

 <u>Journal of Consulting and Clinical Psychology</u>, 1975, <u>43</u>, 522-527.
- Festinger, L. <u>A theory of cognitive dissonance</u>. Stanford:
 Stanford University Press, 1957.
- Fishbein, M. & Ajzen, I. Attitudes toward objects as predictors of single and multiple behavioral criteria. <u>Psychological Review</u>, 1974, <u>81</u>, 59-74.
- Fishbein, M. & Ajzen, I. <u>Belief</u>, attitude, intention and <u>behavior</u>: An introduction to theory and research.

 Reading, Massachusetts: Addison-Wesley, 1975.
- Fishbein, M., Ajzen, I. & Hinkle, R. Predicting and understanding voting in American elections: Effects of external variables. In I. Ajzen & M. Fishbein (Eds.), Understanding attitudes and predicting social behavior. Englewood Cliffs, N. J.: Prentice-Hall, 1980.

- Goffman, E. The presentation of self in everyday life. Garden City, NY: Doubleday & Company, 1959.
- Herrman, D. J. Know thy memory: The use of questionnaires to assess and study memory. <u>Psychological Bulletin</u>, 1982, <u>92</u>, 434-452.
- Hom, P. W., Katerberg, R. & Hulin, C. L. Comparative examination of three approaches to the prediction of turnover. <u>Journal of Applied Psychology</u>, 1979, <u>64</u>, 280-290.
- Kelley, S. & Mirer, P. W. The simple act of voting. The American Political Science Review, 1974, 68, 572-591.
- Kelman, H. Attitudes are alive and well and gainfully employed in the sphere of action. American Psychologist, 1974, 29, 310-324.
- Markus, H. Self-schemata and processing information about the self. <u>Journal of Personality and Social Psychology</u>, 1977, 35, 63-78.
- Nisbett, R. E. & Wilson, T. D. Telling more than we can know:

 Verbal reports on mental processes. <u>Psychological Review</u>,

 1977, 84, 231-279.

- Norman, R. Affective-cognitive consistency, attitudes, conformity and behavior. <u>Journal of Personality and Social Psychology</u>, 1975, 32, 83-91.
- Pryor, J. B., Gibbons, F. X., Wicklund, R. A., Fazio, R.H. & Hood, R. Self-focused attention and self-report validity.

 Journal of Personality, 1977, 45, 513-527.
- Romer, D. A person-situation causal analysis of self-reports of attitudes. <u>Journal of Personality and Social Psychology</u>, 1981, 41, 562-576.
- Rosenberg, M. J. & Hovland, C. I. Cognitive, affective and behavioral components of attitudes. In M. J. Rosenberg, et. al. (Eds.), Attitude organization and change. New Haven, Conn.: Yale University Press, 1960.
- Ryan, M. J. & Bonfield, E. H. The fishbein extended model and consumer behavior. <u>Journal of Consumer Research</u>, 1975, <u>2</u>, 118-136.
- Scheier, M. F., Buss, A. H. & Buss, D. M. Self-consciousness, self report of aggressiveness and aggression. <u>Journal of Research in Personality</u>, 1978, 12, 133-140.

- Schlenker, B. R. <u>Impression Management: The Self-concept,</u>

 <u>Social Identity, and Interpersonal Relations.</u> Belmont,

 California: Wadsworth, 1980.
- Schrauger, J. S. & Osberg, T. M. The relative accuracy of self-predictions and judgements by others in psychological assessment. Psychological Bulletin. 1981, 90, 322-351.
- Schwartz, S. Temporal instability as a moderator of the attitude-behavior relationship. <u>Journal of Personality and Social Psychology</u>, 1978, <u>36</u>, 715-724.
- Sherif, M. & Hovland, C. I. <u>Social Judgement: Assimilation</u>
 and Contrast Effects in Communication and Attitude Change.

 New Haven: Yale University Press, 1961.
- Smith, E. R. & Miller, F. D. Limits on perception of cognitive processes: A reply to Nisbett and Wilson.

 Psychological Review, 1978, 85, 355-362.
- Snyder, M. Self-monitoring processes. In L. Berkowitz (Ed.),

 Advances in experimental social psychology (Vol. 12). New

 York: Academic Press, 1979.

- Snyder, M. & Tanke, E. D. Behavior and attitude: Some people are more consistent than others. <u>Journal of Personality</u>, 1976, 44, 501-517.
- Snyder, M. & Swann, W. When actions reflect attitudes: The politics of impression management. <u>Journal of Personality</u> and Social Psychology, 1976, 34, 1034-1042.
- Turner, R. G. Consistency, self-consciousness, and the predictive validity of typical and maximal personality measures. <u>Journal of Research in Personality</u>, 1978, <u>12</u>, 117-132.
- Turner, R. G. & Peterson, M. Public and private self-consciousness and emotional expressivity. <u>Journal of Consulting and Clinical Psychology</u>, 1977, 45, 490-491.
- Warner, L. G. & Defleur, M.L. Attitude as an interactional concept: Social constraint and social distance as intervening variables between attitudes and action.

 American Sociological Review, 1969, 34, 153-169.
- Warshaw, P. R., Sheppard, B. H. & Hartwick, J. The intention and self-prediction of goals and behavior. Chapter to appear in R. Bagozzi (Ed.), Advances in Marketing Communication. Greenwich, CT: JAI Press, in press.

- White, P. Limitations on verbal reports of internal events: A refutation of Nisbett and Wilson and of Bem. <u>Psychological Review</u>, 1980, <u>87</u>, 105-112.
- Wicker, A. W. Attitudes versus actions: The relationship of verbal and overt responses to attitude objects. <u>Journal of</u> Social Issues, 1969, 25, 41-78.
- Wicklund, R. A. Objective self-awareness. In L. Berkowitz (Ed.), Advances in Experimental Social Psychology (Vol. 8). New York: Academic Press, 1975.
- Zanna, M. P., Olson, J. M. & Fazio, R. H. Attitude-behavior consistency: An individual difference perspective.

 Journal of Personality and Social Psychology, 1980, 38, 432-440.

Footnotes

Correspondence concerning the article should be sent to Paul R. Warshaw, Faculty of Management, McGill University, 1001 Sherbrook Street West, Montreal, Quebec, H3A 1G5.

Table 1

Spearman Rank Order Correlations Between

Behavioral Expectations (BE) and Behaviors for

High, Medium and Low General Self-understanding Groups

	Self-reported General Self-understanding				
Criterion Behaviors	High (n=30)	Medium (n=31)	Low (n=22)	Total Sample (n=83)	
Go to campus pub	.70**	.65**	.27	.57**	
Skip class	.63**	.66**	.20	.52**	
Watch TV movie	.42*	.53**	.54**	.48**	
Drink alcohol	.65**	.59**	.64**	.64**	
Read newspaper	.71**	.61**	.07	.53**	
Pleasure read	.53**	.48**	.61**	.54**	
Go to dormatory pub	.40*	.67**	06	.34**	
Eat in restaurant	.50**	.67**	.25	.50**	
Have sex	.51**	.38*	.30	.42**	
Attend sports event	.40*	.57**	.45*	.48**	
Perform illegal behavior	.34*	.76**	.46*	.55**	
Mean	.53	.60	.34	.52	

^{*} \underline{P} < .05

^{**} P < .01

The Accuracy of Behavioral

Intention Versus Behavioral Expectation

for Predicting Behavioral Goals

Paul R. Warshaw
McGill University

and

Fred D. Davis
Massachusetts Institute of Technology

Running Head: Predicting Behavioral Goals

		'n
		,

1

Abstract

Researchers have largely overlooked the distinction between an individual's <u>behavioral intention</u> and his/her <u>behavioral expectation</u> as predictors of his/her own behavior. Moreover, the distinction between <u>purely volitional behaviors</u> and <u>behavioral goals</u>, the latter of which may be impeded by such non-volitional factors as lack of ability, lack of opportunity, habit and environmental impediments, has also been blurred in the literature. Behavioral expectation is theorized to be based upon a cognitive appraisal of one's behavioral intention plus all other behavioral determinants that one is aware of. Therefore, the present research argues and gives evidence that while behavioral expectation and behavioral intention may have similar predictive accuracy for volitional behaviors, behavioral expectation is adequate while behavioral intention may be inadequate for prediction of the accomplishment of behavioral goals.

•	

Predicting individual behavior has long interested social psychologists and other applied researchers. The conceptual underpinning for much of this work is Fishbein and Ajzen's intention model (Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975). Although the field has generally accepted their proposal that the best predictor of an individual's future behavior is his/her present behavioral intention to perform that behavior (BI), Warshaw, Sheppard & Hartwick (in press) have argued that behavioral intention and behavioral expectations (BE) have been confounded in the literature. BI is measured by asking individuals to indicate whether or not they intend to perform a behavior (usually on some subjective probability scale), while BE is measured by asking individuals whether or not they will perform a behavior (also on some subjective probability scale). Thus, while BI is a statement of conscious intention, BE is a self-prediction of one's own behavior.

Although BE has been used inadvertantly and inappropriately to operationalize intention (e.g., Bentler & Speckart, 1979), Warshaw et al. (in press) theorize that BE is predictively superior when a) the criterion behavior is habitual or mindless (Langer, 1978), b) the individual is able to foresee changes in his/her current intention during or prior to the time in question, or c) the individual is able to foresee impediments to performing the behavior, such as lack of ability, lack of opportunity, habits or environmental impediments. Thus BE is based on an individual's cognitive appraisal of all volitional and non-volitional behavioral determinants of which he/she is aware: beliefs, attitudes, social norms, present intentions, habits, abilities and situational factors, as well as anticipated changes in these determin-

ants (Warshaw, et al., in press).

As formulated by Fishbein and Ajzen (1975), behavioral intention is theorized to be the immediate psychological determinant of purely volitional behavior. Thus it does not apply when the probability of performing a behavior given that it is not consciously attempted is greater than 0.0 (the case of habit), or when the probability of performing a behavior given that it was consciously attempted is less than 1.0 (the case of behavioral impediments). The intention model is routinely, although inappropriately, applied in contexts where habits or behavioral impediments are operative (Warshaw, et al., in press). We shall refer to behaviors where lack of ability, lack of opportunity, habits or environmental impediments prevent the performance of the behavior given that it is attempted as behavioral goals. Thus behavioral goals are a special case of goals (Warshaw, et al., in press), the latter including non-observable outcomes as well. Behavioral goals have not been distinguished from purely volitional behaviors in the literature that attempts to predict behavior from intentions. For purely volitional behaviors, BE should be based largely on an individuals intention (BI), and BE and BI should both be predictive of behavior (B). However, for behavioral goals, BE should reflect considerations of behavioral impediments that BI does not include. Thus it is hypothesized that for purely volitional behaviors, the correlations between behavioral expectation (BE) and behavior (B) and between behavioral intention (BI) and behavior (B) will all be significant; whereas for behavioral goals, the correlations between behavioral expectation (BE) and behavior (B) will be significant while the correlations between behavioral intention

4

(BI) and behavior (B) will be non-significant.

Method

Subjects

Subjects were 39 male and female undergraduate students who were enrolled in two introductory marketing courses at a large east coast university during the summer of 1982. The students voluntarily participated in the study during class time.

Procedure

Subjects completed two questionnaires. The first, administered on a Monday and Tuesday, pertained to student activities the following weekend. This questionnaire asked BI and BE questions regarding four behaviors. Two of these behaviors were purely volitional behaviors while two were behavioral goals. The method of selecting these four behaviors involved having thirty-seven non-sample-member students rate each of several acts as either a behavior or a goal for them during the upcoming week. Behaviors were defined for them as acts which "nothing much would prevent you from carrying out the act during the upcoming week, assuming you intended to perform it," while goals were defined as those acts for which "lack of ability, lack of opportunity, habits or environmental impediments might prevent you from carrying out an intent to perform the act during the upcoming week."

Subjects rated various acts as behaviors or goals for them on five point semantic differential scales whose endpoints were "definitely a behavior for me" (scale point 1) and "definitely a goal for me" (scale point 5). Those two acts most strongly rated as behaviors (i.e., eating ice cream ($\bar{\mathbf{x}} = 1.6$) and going swimming ($\bar{\mathbf{x}} = 2.2$)) and those two most strongly rated as goals (i.e., talking with a goodlooking stranger ($\bar{\mathbf{x}} = 3.3$) and finishing all my unfinished school work ($\bar{\mathbf{x}} = 4.2$)) were selected as the experimental behaviors. Namely, eating ice cream and going swimming were the purely volitional behaviors while talking with a goodlooking stranger and finishing all my unfinished school work served as examples of behavioral goals.

The scales used to measure BI and BE were 11-point (0 to 10) semantic differential scales with endpoints "highly likely/highly unlikely" (the ordering of these endpoints was reversed for half the subjects). Regarding BE, subjects were asked to "please indicate the likelihood that you will actually perform each act listed below sometime this upcoming weekend." Questions were of the form: "Sometime this upcoming weekend I will [act]." For BI, the instruction was as follows: "Please indicate what your intentions are at this very moment regarding your performing each act listed below sometime this upcoming weekend. We are not asking about what you think your intentions are going to be this weekend; rather, please focus only upon your present intentions." Questions were of the form: "At this very moment, I intend to perform [act] sometime this upcoming weekend."

When subjects had completed the questionnaire, they were instructed to inscribe their initials on its face. During the following Monday and

Tuesday, subjects answered the second questionnaire, self-reporting their performance or nonperformance of each act on questions of the form: "This past weekend, did you [act]? Yes No." Once again, each subject's initials were requested so that their two questionnaires could be matched.

Results and Discussion

The results of this study strongly support our hypotheses. As shown in Table 1, the correlations between BE and B for the two purely volitional behaviors (\underline{r} = .441 and .415) as well as for the behavioral goals (\underline{r} = .307 and .362) are all significant at the \underline{p} < .05 level. However, the correlations between BI and B were significant only for the two purely volitional behaviors (\underline{r} = .476 and .340; \underline{p} < .05 in each case) but not for the behavior goals (\underline{r} = .091 and .171; n.s. in each case).

Insert Table 1 about here.

These results suggest that researchers should verify that the assumption of conscious volitionality is met when using intention measures for prediction, and that behavioral expectation may be a useful alternative in the cases where this assumption is not met.

In fact, since several researchers have argued recently that much human behavior has nonintentional determinants (e.g., Langer, 1978; Zajonc, 1980; Zajonc & Markus, 1982), behavioral expectation may be superior to intent for predicting the performance of many "behaviors" of interest to social scientists.

- Ajzen, I. & M. Fishbein. <u>Understanding Attitudes and Predicting Social</u>
 Behavior. Englewood Cliffs, New Jersey: Prentice Hall, 1980.
- Bentler, P. M. & G. Speckart. Models of Attitude-behavior relations.

 Psychological Review, 1979, 86, 452-464.
- Fishbein, M. & I. Ajzen. <u>Belief, Attitude, Intention and Behavior</u>.

 Reading, Massachusetts: Addison-Wesley, 1975.
- Langer, E. J. Rethinking the role of thought in social interaction.

 In J. H. Harvery, W. J. Ickes & R. F. Kidd (eds), New Directions
 in Attribution Research (Vol. 2). New York: Halsted, 1978.
- Warshaw, P. R., B. H. Sheppard & J. Hartwick. The Intention and SelfPrediction of Goals and Behavior. In R. Bagozzi (ed), Advances

 in Marketing Communications. Greenwich, Connecticut: JAI Press,
 in press.
- Zajonc, R. Feeling and Thinking: Preferences Need No Inferences.

 American Psychologist, 1980, 35, 151-175.
- Zajonc, R. & H. Markus. Affective and Cognitive Factors in Preferences.

 Journal of Consumer Research, 1982, 9, 123-131.

Footnotes

Correspondence concerning the article should be sent to Paul R. Warshaw, Faculty of Management, McGill University, 1001 Sherbrook Street West, Montreal, Quebec, H3A 1G5.

Table 1

Spearman Correlation Coefficients Between

Cognitive Measures (i.e., Intentions, Self-Predictions) and

Performance of Two Types of Acts

	Variables	Correlated
Behaviors	BI/B	BE/B
Purely volitional behaviors:		
Go swimming	.476**	.441**
Eat ice cream	.340*	.415**
Behavioral goals:		
Finish all ones unfinished		
schoolwork	.091	.307*
Talk with a goodlooking		
stranger	.171	.362*

Note: N = 39 for each table entry.

BI = Behavioral Intention

BE = Behavioral Expectation

B = Behavior

^{*} $\underline{p} < .05$

^{**} p < .01



	4,
	?
	\$ T

Date Due			
		Lib-26-67	

TNEWEST"

Bu Code

Dr Last

Page

